Forest Insect & Disease Management

Evaluation Report

S-26-76

December 1976

SPRUCE BUDWORM EGG MASS SURVEY HIAWATHA NATIONAL FOREST, 1976

A. R. Hastings, Entomologist

INTRODUCTION

A 1976 cooperative aerial survey[1/] of the Upper Peninsula of Michigan revealed that the majority of the severe spruce budworm-caused defoliation and tree mortality is located on the St. Ignace R. D. Areas of heavy defoliation, but no significant tree mortality, were found on the Sault Ste. Marie R. D.

Following that survey, the Forest requested additional information on the trend of the infestation on high value stands outside the areas of most severe infestation. We surveyed egg masses to obtain data for 1977 defoliation predictions and for possible need to protect or harvest endangered resources.

METHOD

Twenty-five 3-tree-plots were located in stands selected by the Forest's Timber Management Staff. Three 15-inch mid-crown branches were cut from each tree and current year egg masses were counted.

The predicted or expected 1977 defoliation is based on these criteria:

Average number egg masses/ branch/plot	Expected defoliation percent	intensity
Less than 0.2	less than 26%	Light
0.2 - 0.5	26-50	Moderate
0.6 - 0.9	51-75	Heavy
more than 1.0	more than 75%	Severe

Plot locations and predicted defoliation are shown on the following map.

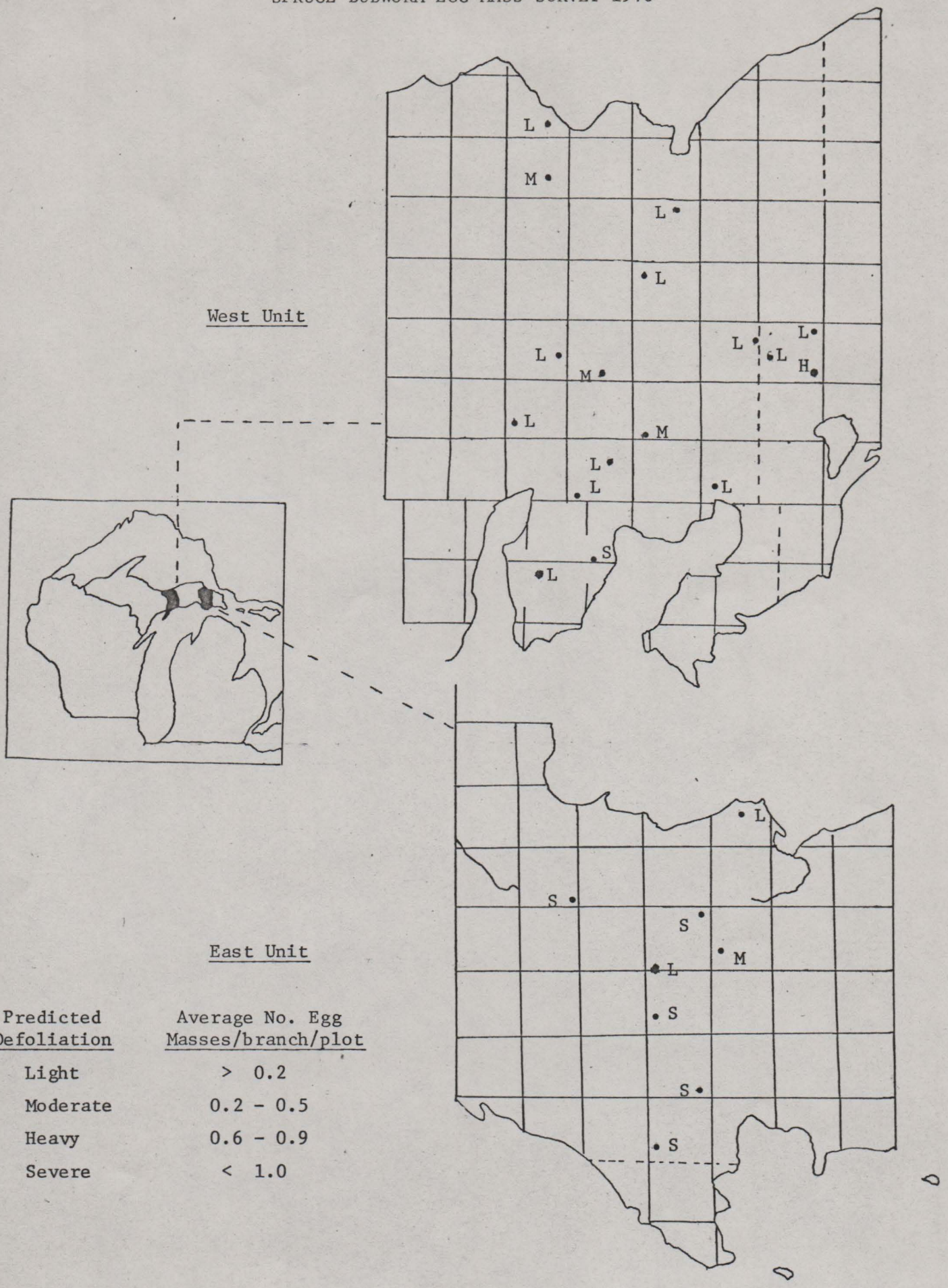
RESULTS

The data indicate that continued severe defoliation will occur on the East Unit where 5 of 7 plots contained sufficient egg masses to produce severe defoliation for 1977. On the West Unit there are enough egg masses to cause severe defoliation only in the vicinity of T40N R20W. Moderate defoliation is possible at several other locations.

1/ In preparation with the Michigan Department of Natural Resources, Lansing, Michigan.

HIAWATHA NATIONAL FOREST

SPRUCE BUDWORM EGG MASS SURVEY 1976



Predicted Defoliation	Average No. Egg Masses/branch/plot
Light	> 0.2
Moderate	0.2 - 0.5
Heavy	0.6 - 0.9
Severe	< 1.0